CLAIMS

What is claimed is:

1 1. A method of form line following, comprising the steps of:

2   defining a first form line using two or more terrestrial locations;

3   defining a second form line using positioning data derived from GPS data and a

4 swathing offset; and

5   updating said second form line according to one or more deviations from said second

6 form line.

1 2. A method as in claim 1 wherein said step of updating comprises the steps of:

2   following said second form line defined by said positioning data and said swathing

3 offset;

4   deviating from said second form line to accommodate one or more terrain features;

5   collecting new GPS data during said steps of following and deviating and computing

6 one or more positions therefrom; and

7   defining an updated second form line using said positions.

1 3. A method as in claim 2 further comprising the step of defining a third form line using said

2 positions and said swathing offset.

1 4. A form line following apparatus, comprising

2   a vehicle fitted with a GPS receiver configured to receive GPS data and GPS

3 correction information and to compute position information therefrom; and

4   a processor configured to compute form line following information from said position

5 information and to update said form line following information in response to form line
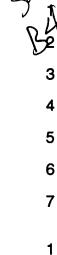
6 deviation information.

1   5. A form line following apparatus as in claim 4 further comprising a display device

2   configured to receive and display said form line following information.

1   6. A form line following apparatus as in claim 5 wherein said vehicle is further configured

2   with an automatic steering apparatus configured to accept steering inputs according to said

3   form line following information and to provide steering outputs to control said vehicle in

4   accordance therewith.

1   7. A method of form line following, comprising the steps of:

2   computing a form line pattern for at least a portion of a plot of land from one or more

3   data values retrieved from a computer readable storage medium, said data values associated

4   with terrestrial locations comprising said portion of said plot of land;

5   controlling a vehicle so as to follow said computed form line pattern over said plot of

6   land using positioning information provided by one or more sources of GPS information;

7   computing an updated form line pattern in response to form line following correction

8   inputs, said updated form line pattern being derived from said positioning information; and

9   controlling said vehicle so as to follow said updated form line pattern.

1   8. A method as in claim 7 wherein said positioning information is provided by one or more

2   GPS satellites.

1   9. A method as in claim 7 wherein said positioning information is provided by one or more

2   pseudolites.

1   10. A method as in claim 7 wherein said positioning information is provided by a GPS

2   receiver housed within said vehicle.

1   11. A method as in claim 7 wherein said positioning information is provided by a GPS

2   receiver located remote from said vehicle.

12. A method of applying chemicals to an agricultural field, comprising the steps of:

operating a spraying apparatus along a first intended form line so as to apply chemicals

3   to a first portion of a field; and

4   operating said spraying apparatus along a second intended form line so as to apply

5   chemicals to a second portion of said field,

6   wherein while operating said spraying apparatus, deviations from said first intended

7   form line are accounted for during one of said steps of operating said spraying apparatus.

1   13. A method as in claim 12 wherein said deviations are accounted for by computing said

2   second form line so as to cause said spraying apparatus to follow a path through said field

3   which accounts for said deviations from said first intended form line.

14. A method as in claim 12 wherein said deviations are accounted for by applying

chemicals only to a selected area of said field while operating along said first form line, said

3   selected area configured so as not to encroach upon said second portion of said field.